REMARKS

STATUS OF THE CLAIMS

Claims 1-21 are pending in the application of which claims 5-10 are withdrawn from consideration, due to restriction of species, where upon allowance of a generic claim, applicant is entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claims as provided by 37 CFR 1.141.

Claims 11-16, 20 and 21 are allowed.

Claim 18 is rejected under 35 USC 103(a) as being unpatentable over Koike (US Patent No. 6,181,805). Koike is newly cited, and, thus, newly relied upon.

Claims 1-4, 17 and 19 are rejected under 35 USC 103(a) as being unpatentable over Koike in view of Matsugu (US Patent No. 6,463,176). Matsugu is newly cited and relied upon.

Thus, claims 1-4 and 17-19 remain pending for reconsideration, which is respectfully requested.

No new matter is added in this response.

REJECTIONS

Rejected pending independent claims are 1, 17, 18 and 19.

INDEPENDENT CLAIMS 1, 17, 18, AND 19

In a computer implemented picture matching process that comprises a "registration phase" of a picture and a "recognition phase" of a picture, the independent claims 1, 17, 18 and 19 are generally directed to controlling the "registration phase," to improve the "recognition process," as follows:

> 1. (PREVIOUSLY PRESENTED) A picture matching processing system, comprising:
>
> a window picture cutting part for cutting out a characteristic window picture group from previously captured pictures of a recognition target in different capturing environments;
>
> a capturing environment variation influence evaluating part for ***evaluating influence of variations in the capturing environments of the cut out window picture group***; and
>
> a window picture selecting part for ***selecting a window picture*** in which the influence of variations in a capturing environment is at a predetermined level or less from among the cut out window picture group, ***based on results of the evaluation of the influence of variations in the capturing environments***,
>
> wherein ***picture matching is conducted by using the selected window picture*** (emphasis added).

Support for independent claims 1, 17, 18, and 19 can be found, for example, in FIG. 3 and page 22, line 8 to page 23, line 5, of the present Application. In the present Application, FIG. 3 is a block diagram of an example structure of a picture matching processing system according to the present invention, and FIGS. 4-5 are two examples of FIG. 3 and page 23 to page 26, line 30 and FIGS. 6-7 describe in more detail the example embodiments of FIGS. 4-5.

In particular, the claimed present invention as recited in independent claims 1, 17, 18 and 19, using claim 1 as an example, is directed to the patentably distinguishing features of "a capturing environment variation influence evaluating part for ***evaluating influence of variations in the capturing environments of the cut out window picture group***" (capturing environment variation influence evaluation part 30 in FIG. 3) and "a window picture selecting part for ***selecting a window picture*** in which the influence of variations in a capturing environment is at a predetermined level or less from among the cut out window picture group, ***based on results of the evaluation of the influence of variations in the capturing environments***" (window

picture selecting part 40 in FIG. 3).

The claimed present invention's "***stable window picture selecting***," as recited in allowed claims 11, 16, 20 and 21, is another example of selecting a window picture that is ***stable*** depending upon variations in a capturing environment (support can be found, for example, on page 27, lines 8-13 of the present Application). Therefore, independent claims 1, 17 and 18 and 19, which recite, "***selecting a window picture*** in which the influence of variations in a capturing environment is at a predetermined level or less from among the cut out window picture group, ***based on results of the evaluation of the influence of variations in the capturing environments***," are generic to species claimed in allowed claims 11, 16, 20, and 21, which recite, "***stable window picture selecting***." Also, FIGS. 4-5 and FIGS. 6-7 of the present Application, provide some example methods of evaluating the influence of the variations in a capturing environment 30a, 30b, which are claimed in non-elected independent claims 5 and 9 (support can be found, for example, in page 16, lines 13-14 and page 22, lines 27-28, of the present Application).

Therefore, a selected "***robust*** window picture" (non-elected claims 5 and 9) is a selected window picture that is ***robust*** against various variations in a capturing environment (i.e., withdrawn independent claim 5 provides, "a first window picture cutting part for cutting out a first characteristic window picture group from each picture of the recognition target, ***based on a first standard in which variations in a capturing*** environment are not considered; a second window picture cutting part for cutting out a second characteristic window picture group from each picture of the recognition target, ***based on a second standard in which variations in a capturing environment are considered***; and a robust window picture selecting part for ***selecting, as a robust window picture, a window picture contained both in the first window picture group cut out based on the first standard and in the second window picture group cut out based on the second standard***"). Independent claims 1, 17, 18 and 19, using claim 1 as an example, generally recite, "***selecting a window picture in which the influence of variations in a capturing environment is at a predetermined level or less.***" Therefore, independent claims 1, 17, 18 and 19 are also generic to species claimed in non-elected independent claims 5 and 9, and in view of the remarks herein, upon allowance of independent claims 1, 17, 18 and 19, reconsideration of (withdrawal of) the restriction requirement in the Office Action of March 24, 2004 is respectfully requested. Upon allowance of a generic claim, applicant is entitled to consideration of claims to additional species which are

written in dependent form or otherwise include all the limitations of an allowed generic claims as provided by 37 CFR 1.141.

KOIKE

Koike relates to object image detecting against a dictionary of images and detected object image categorization (Abstract and column 1). The Office Action in pages 3 and 4 acknowledges that Koike fails to disclose the claimed present invention's, "a window picture selecting part for ***selecting a window picture*** in which ***the influence of variations in a capturing environment is at a predetermined level or less*** from among the cut out window picture group," but the Office Action appears to assert inherency alleging that because Koike selects a dictionary image with a highest degree of similarity, one is finding a window picture where the differences in the capturing environment is small.

However, Koike in columns 3 and 4, which is relied upon by the Office Action, describes a process for generation of dictionary images as part of a registration process for image matching that fails to disclose or suggest the claimed present invention's, "a capturing environment variation influence evaluating part for ***evaluating influence of variations in the capturing environments of the cut out window picture group***" (e.g., independent claim 1). In other words, Koike's dictionary generation section 100 in FIG. 1 has a facial region cut-out section 102, a feature point detection section 103 and a dictionary image storage 104, but fails to disclose or suggest (is silent on) any type of "***evaluating influence of variations in the capturing environments of the cut out window picture group***."

In others words, in contrast to Koike, the claimed present invention's, "***selecting a window picture" to be used in "picture matching"*** ("wherein picture matching is conducted by using the selected window picture,") is "***based on results of the evaluation of the influence of variations in the capturing environments***" (e.g., claim 1).

MATSUGU

The Office Action in page 5 also relies on Matsugu, column 5, lines 25-39. Matsugu relates to a method of recognizing objects and reproducing the images of objects. Matsugu in column 5, lines 25-39, concerning the matching process of operation 15 in FIG. 1B, discloses, "The matching method involves computing the sum of the squares of the differences between the elements of the matching patterns (this shall be referred to as an "error quantity") and selecting model array data for which the error quantity is less than a predetermined threshold value."

However, this Matsugu description relates to a matching process in operation 15 in FIG. 1B, which is based upon the generated data array of extracted feature elements (S13) and model array data of local feature elements (storage unit A4 for storing model array data of local feature elements). In other words, Matsugu is silent on performing a selection process for the model array data A4. In contrast, the claimed present invention is generally directed to controlling the "registration phase," to improve the "recognition process," by providing, "a window picture selecting part for ***selecting a window picture*** in which the influence of variations in a capturing environment is at a predetermined level or less from among the cut out window picture group, ***based on results of the evaluation of the influence of variations*** in the capturing environments."

In other words, Matsugu's processing for the model array data storage unit A4 fails to disclose or suggest the claimed present invention's,

> 1. (PREVIOUSLY PRESENTED) A picture matching processing system, comprising:
>
> a window picture cutting part for ***cutting out*** a characteristic window picture group ***from previously captured pictures of a recognition target in different capturing environments***;
>
> a capturing environment variation influence evaluating part for ***evaluating influence of variations in the capturing environments of the cut out window picture group***; and
>
> a window picture selecting part for ***selecting a window picture*** in which ***the influence of variations in a capturing environment is at a predetermined level or less*** from among the cut out window picture group, ***based on results of the evaluation of the influence of variations*** in the capturing environments,
>
> wherein picture matching is conducted by using the selected window picture.

Matsugu in column 2, lines 45-56, discloses "a selection step of selecting a pair composed of a prescribed local feature element and position information indicative thereof," which is used in the matching process. However, Matsugu's selecting a pair of local feature element and position information, differs from the claimed present invention's, "***evaluating influence of variations in the capturing environments of the cut out window picture group***; and ***selecting a window picture*** in which ***the influence of variations in a capturing environment is at a predetermined level or less*** from among the cut out window picture group, ***based on results of the evaluation of the influence of variations*** in the capturing environments," because Matsugu's method can improve matching by using position information of a local feature element, whereas the claimed present invention uses "***evaluating influence of variations in the capturing environments of the cut out window picture group***."

One benefit from among many benefits of the claimed present invention, as recited in independent claims 1, 17, 18 and 19, is to reduce the number of processing operations in picture matching, reducing processing time, and reducing volume of registration data, by "a window picture selecting part for ***selecting a window picture*** in which the ***influence of variations in a capturing environment is at a predetermined level or less*** from among the cut out window picture group, ***based on results of the evaluation of the influence of variations in the capturing environments***, wherein ***picture matching is conducted by using the selected window picture***." See, page 8, lines 14-29 of the present Application.

Therefore, a combination of Koike and Matsugu fails to disclose or suggest the claimed present invention as recited in independent claims 1, 17, 18 and 19.

WITHDRAWAL OF RESTRICTION REQUIREMENT AND/OR CONSIDERATION OF WITHDRAWN SPECIES CLAIMS

It is respectfully asserted that independent claims 1, 17, 18 and 19 are generic to species claimed in allowed claims 11, 16, 20, and 21 ***as well as*** generic to species claimed in non-elected independent claims 5 and 9, and in view of the remarks herein and allowable generic or linking claims, reconsideration of (withdrawal of) the restriction requirement in the Office Action of March 24, 2004 and allowance of withdrawn claims 5-10 is respectfully requested. Upon allowance of a generic claim, applicant is entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claims as provided by 37 CFR 1.141.

CONCLUSION

In view of the remarks and allowable generic or linking claims, withdrawal of the rejection of claims 1-4, and 17-19, and allowance of claims 1-21 is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
STAAS & HALSEY LLP

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By: _____
Mehdi D. Sheikerz
Registration No. 41,307

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501